

AMAX MAGNESIUM

238 NORTH 2200 WEST • SALT LAKE CITY, UTAH 84116
PHONE (801) 532-2043 / TWX 910-925-5174 AMAX MAG SLC

March 14, 1984

FILE ACT/045/008
RECEIVED
MAR 22 1984

**DIVISION OF
OIL, GAS & MINING**

Mr. James W. Smith, Jr.
Coordinator of Mined Land Development
State of Utah Natural Resources
4241 State Office Building
Salt Lake City, Utah 84114

Dear Mr. Smith:

Re: Rowley Magnesium Facility - ACT/045/008 Tooele County, Utah

Per your letter request of February 15, 1984, I am submitting herewith AMAX Magnesium "Annual Operations and Progress Report" covering our oolite mining operations in Section 11, T2N, R8W.

This operation takes place on AMAX owned land and all the material mined is used. It essentially is a screening operation where a certain screen size is converted to calcium chloride but all other sizes are used in pond building, dike repair etc.

Should you need additional information please advise.

Sincerely,

R D Toomey
R. D. Toomey
President

100098

ANNUAL OPERATIONS AND PROGRESS REPORT

From Month/Year January 1, 1983
to Month/Year January 1, 1984

(To be submitted for each mining operation at the end of each calendar year to the Division at this address:)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, Utah 84114

OPERATOR: AMAX Magnesium Corp. MINE NAME: Rowley, Utah

ADDRESS: 238 North 2200 West
Salt Lake City, Utah 84116

PERMIT NUMBER AND DATE OF PERMIT: ACT/045/008 May 25, 1979

REPRESENTATIVE: R. D. Toomey

SECTION(S): 11 TOWNSHIP(S): 2N RANGE(S): 8W

MINERAL(S) MINED: oolites

STATE AND/OR FEDERAL MINERAL LEASE NUMBERS: None

SPECIAL USE PERMITS AND/OR RIGHTS-OF-WAY: None

Section 40-8-15 and Rule M-8 of the Utah Mined Land Reclamation Act, requires each operator to include with this report an up-dated map and plan prepared in accordance with Rule M-3, as outlined in the requirements for annual report maps in Appendix I, providing a detailed status of all mining and reclamation activities which have occurred during the past year.

The report should include:

MINING:

(a) Tabulation of acreage disturbed (by pits, roads, facilities, etc.) during the report period with illustration on a current map.

<u>Disturbance</u>	<u>Acreage</u>
Pit	<u>18</u>
Roads	<u> </u>
Facilities	<u> </u>
Waste Dumps	<u> </u>
Other	<u> </u>

(b) Tabulation of acreage affected to date (by years).

<u>Date by Year</u>	<u>Acreage (Total)</u>
1975	<u> </u>
1976	<u> </u>
1977	<u> </u>
1978	<u> </u>
1979	<u>3</u>
1980	<u>3</u>
1981	<u>3</u>
1982	<u>4</u>
1983	<u>5</u>

(c) Tabulation of all topsoil (new) stockpile volumes (see chart below) and date of stockpiling.

SOIL TABULATION CHART

Area Affected (in mining sequence) (If more space is needed, please attach.)	<u>Area</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>etc.</u>
Acreage of Area	<u>5</u>			
Depth of Topsoil Removal (inches)	<u>Area mined with front end</u>			
Depth of Topsoil Replacement (inches)*	<u>loader then screened. All</u>			
Estimate of Topsoil Volume Salvaged (yd ³ or ac ft)	<u>screen sizes used. The area</u>			
Volume Actually Salvaged (yd ³ or ac ft)	<u>then leveled and contoured.</u>			
Volume Required for Reclamation (yd ³ or ac ft)	<u> </u>			
Surplus or Deficit Volume (yd ³ or ac ft)	<u> </u>			
Storage Status (short- or long-term)	<u>(25,000 tons (in plant))</u>			

Soil Tabulation Chart (continued)

Area Affected (in mining sequence)	Area			
	1	2	3	etc.
Storage Location	In plant			
Area Where Soil Has Been Used (if not stored)				
Running Total (all stockpiles) (yd ³ or ac ft)				
Short-term				
Long-term				

*Of previously stripped area recently reclaimed.

(d) Tabulation of all (newly removed) out-of-pit spoil volumes, date of placement and illustration on a map.

<u>Area</u>	<u>Date</u>	<u>Acreage</u>

(e) Tabulation of quantity of commodity mined.

	<u>Commodity</u>	<u>Tonnage</u>
(Mined)	oolites	50,000
(Milled)		

(f) Description of any new construction during the report period with illustration on a map, including, but not limited to:

1. Buildings and support facilities.
None

2. Roads.
None

3. Diversion ditches, collector ditches, interceptor ditches, etc.
None

4. Culverts.
None

5. Sediment ponds, containment ponds.
None

6. Monitoring sites (vegetative, air quality, surface subsidence, surface water or ground water, etc.).
None

7. Topsoil stockpiles.
None

(g) Description of any environmental problem areas with a proposed plan for mitigation and illustration on a map, including, but not limited to:

1. Pit stability problems.
Area level.

2. Subsidence.
None

3. Accidental water discharge, dam failure, etc.
None

4. Slumping, sliding or erosion.
None

5. Revegetation problem areas.
None

6. Existence and location of unsuitable (toxic) overburden.
None

RECLAMATION:

(a) Tabulation of the acreage reclaimed during the report period with illustration on a map, distinguishing between:

1. Backfilled, graded and contoured areas.

<u>Area</u>	<u>Acreage</u>
Mining Area	5 acres

2. Topsoiled areas.

<u>Area</u>	<u>Acreage</u>
Mining Area	5 acres

3. Seeded areas.

<u>Area</u>	<u>Acreage</u>
None	

4. Reseeded areas (areas previously seeded, then seeded again).

<u>Area</u>	<u>Acreage</u>
None	

(b) Tabulation of total acreage reclaimed (seeded with permanent seed mix) to date by years with illustration on an updated map:

<u>Year</u>	<u>Acreage</u>
1975	
1976	
1977	
1978	
1979	
1980	
1981	
1982	
1983	
1984	

(c) Description of the reclamation procedures used during the report period, including:

1. Average depth of topsoil applied.

Leveled and contoured with bulldozer.

2. Type of seed (species) used for seeding during the report period.

None

3. Date of seeding during the report period.

Spring None

Fall None

4. Seeding procedures used.

(Hand broadcast or drilled or any other).

None

5. Rate of seed application.

Pounds Per Acre of Pure Live Seed (PLS) (if varied, please explain)

None

6. Type and rate of fertilizer applied.

None

7. Type and rate of mulch applied.

None

8. Rate of irrigation water applied, if any. Please describe any type of sprinkling, or water applied (water truck, etc.).

None

9. Revegetation test plot information.

(Cover, density, productivity, etc.)

None

10. Soil analysis results.

None

(d) Description of results of previous revegetation efforts, including:
(This should be done as applicable.)

1. Types (species) of seed that have germinated and are growing.

None

2. Types (species) of seed that are not growing successfully.

None

3. Areas experiencing problems with weeds and weed types.

None

4. Significant erosional problems.

None

5. Areas of unsuitable overburden on the surface as related to
revegetation failure.

None

6. Procedures used or proposed to correct these problems.

None

7. Acreage and dates of release (upon inspection by the State) of revegetated areas.

<u>Area</u>	<u>Date</u>	<u>Acreage</u>
None		

8. Results of soil analysis.
None

(e) Summarization of the reclamation costs incurred during the report period, including itemized costs for each operation (i.e., grading, topsoil replacement, seeding, etc.) and for each type of disturbance (i.e., spoil, haul roads, facilities removal, etc.) on a per acre basis.

	<u>Acres</u>	<u>Cost/Acre</u>
1. Grading	<u>5</u>	<u>\$2,000</u>
2. Backfilling	<u></u>	<u>Included</u>
3. Contouring	<u></u>	<u>Included</u>
4. Topsoil Replacement	<u></u>	<u>Included</u>
5. Seeding	<u></u>	<u>None</u>
A. Seedbed Preparation	<u></u>	<u></u>
B. Mulch	<u></u>	<u></u>
C. Fertilizer	<u></u>	<u></u>
D. Seed	<u></u>	<u></u>
6. Other	<u></u>	<u>None</u>

BOND INFORMATION:

- A. An updated bond estimate should be included, if required in the Division's approval of the Mining and Reclamation Plan (MRP) or if changes to the MRP have occurred, including a detailed itemization of actual/estimated reclamation costs as outlined in the RECLAMATION section above. The date of the release of revegetated areas from further responsibility for a partial bond release, if applicable, should also be included.

	<u>Amount</u>	<u>Type</u>	<u>Date Posted</u>
Present Bond	<u>\$15,278.08</u>	<u>Reclamation</u>	<u>Bond-640 acres June 13, 1979</u>

Increased disturbance, if any:

Increased Bond Amount (attached reclamation estimate).

B. Bond release.

<u>Acres</u>	<u>Bond Amount Released</u>	<u>Date</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

ADDITIONAL INFORMATION:

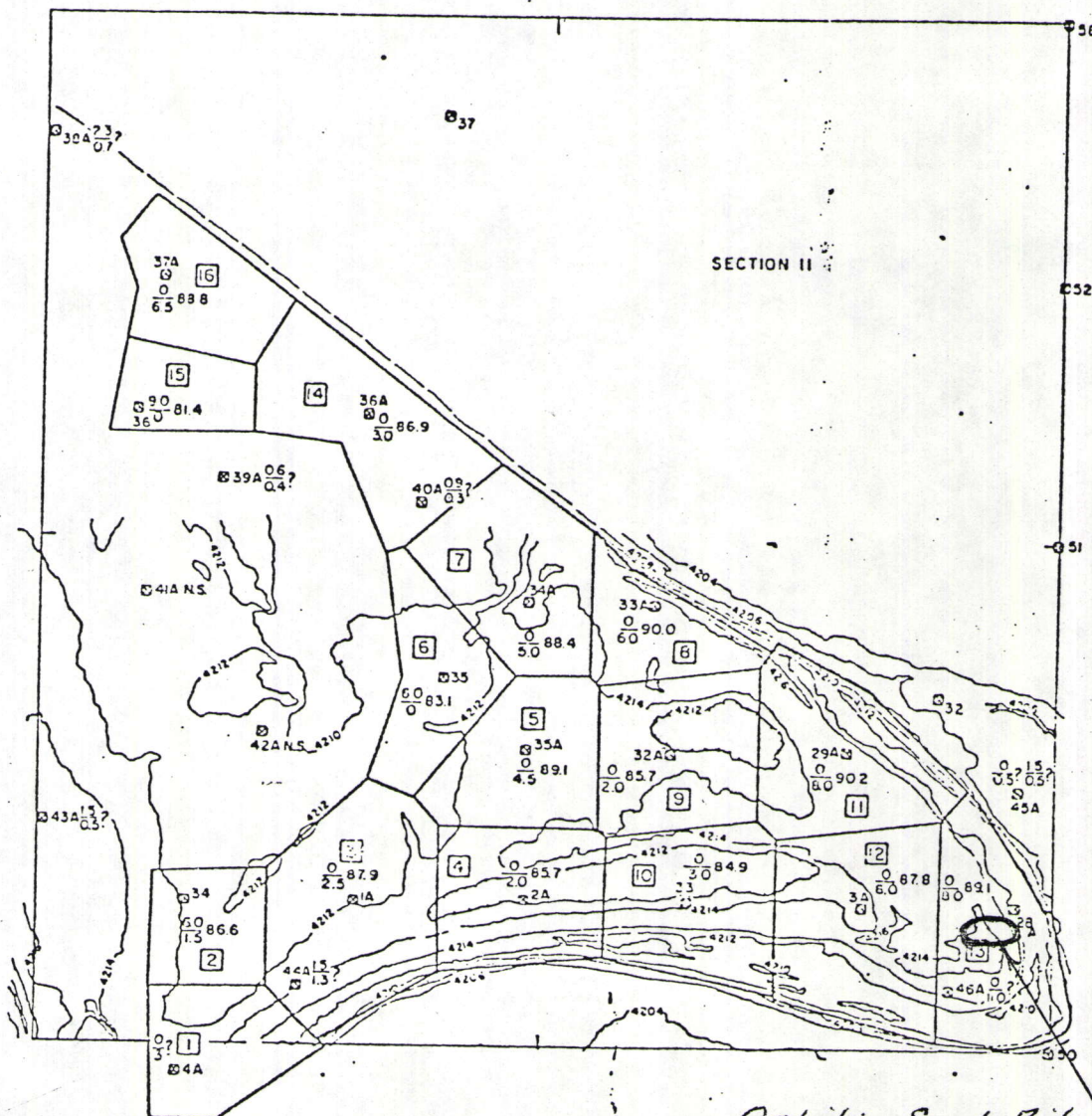
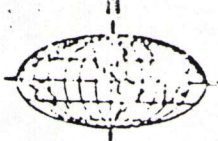
Supply any additional information as requested by the Division related to:

- (a) Permit stipulations (status).
- (b) Other special conditions (status).

APPENDIX I

ANNUAL REPORT MAPS

1. Maps must be clear and legible contour maps or recent aerial photos. The scale should be 1 inch = 500 feet to adequately show topographic features.
2. Map sheets should be of a reasonable size, not to exceed 48 inches on a side.
3. Maps must have a title block with:
 - A. Map title.
 - B. Name and address of permittee.
 - C. Permit and amendment numbers.
 - D. Annual report period.
 - E. Scale, north arrow, contour interval, date of photography, etc.
4. All maps must show:
 - A. Legal subdivisions.
 - B. Permit area boundary clearly shown and labelled.
 - C. Amendment areas clearly shown and labelled.
 - D. Contour features.
5. The following features should all be clearly identified:
 - A. Topsoil stockpiles (numbered and with volumes).
 - B. Settling ponds and sediment control structures.
 - C. Haul roads.
 - D. Pits identified by location, name, number, etc.
 - E. Ramps (numbered).
 - F. Out-of-pit spoil dumps.
 - G. All waste disposal sites including, but not limited to:
 1. Landfill sites.
 2. Carbonaceous waste dumps.
 - H. Diversion ditches.
 - I. Monitoring sites.
6. All areas to be affected by mining and reclamation in the coming year should be outlined and labelled.



Oolitic Sand Pit

REFERENCE:
DRAWING NO 6161 (SHEET 1 OF 7),
DATED 7-23-62, PREPARED BY
CALDWELL, RICHARDS & SORESENSEN,
INC., USING PHOTOGRAMMETRIC
METHODS.

KEY:
● 1A TEST PIT LOCATION AND NUMBER
[] BLOCK NUMBER
0.84.9 OVERBURDEN IN FEET
3.0 DRY MINING THICKNESS IN FEET
% CaCO₃ > 40 MESH
N.S. NO OOLITIC SAND

ORE RESERVE BLOCKS OOLITIC SAND DEPOSIT SECTION II



100110

DAMES & MOORE